

**IN THE UNITED STATES  
PATENT AND TRADEMARK OFFICE**

Appl. No. : 10/597,752  
Applicant(s): Horst Greiner  
Filed: August 7, 2006  
TC/A.U.: 2800/2875  
Examiner: Sean P. Gramling  
Atty. Docket: DE 040041 US1  
Confirmation No.: 5798  
Title: LUMINOUS BODY

**REPLY BRIEF**

Commissioner for Patents  
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Sir:

In response to the Examiner's Answer, mailed December 17, 2010, Applicant submits the following Reply Brief in the above-captioned application.

**Status of the Claims**

Claims 1-12 are pending in this application. No claims are withdrawn from consideration and no claims have been canceled. Claims 1-12 are the subject of the present Appeal.

Claims 1-12 are finally rejected, and are duplicated in the Appendix of the Appeal Brief, filed September 17, 2010.

**Grounds of Rejection to be Reviewed on Appeal**

The issues in the present matter are whether:

- I. Claims 1 and 4-12 are properly rejected under 35 U.S.C. § 102(b) as being anticipated by *Koike, et al.* (U.S. Patent No. 6,345,903); and
- II. Claims 2 and 3 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Koike, et al.* in view of *Kawano, et al.* (U.S. Patent No. 6,404,131).

## Arguments

In this portion of the Reply Brief, responsive arguments are provided. More particularly, Applicant addresses the Examiner's "Response to Arguments" set forth in the Examiner's Answer (mailed December 17, 2010), pp. 6-9. Notably, Applicant expressly maintains the previous arguments for patentability provided in Applicant's responses to Office Actions and the Appeal Brief (filed September 17, 2010), including the "Legal Standards" set forth therein, and otherwise do not waive any arguments, even though they may not be specifically addressed or repeated in this Reply Brief.

### **I. Rejection under 35 U.S.C. § 102(b)**

Claims 1 and 4-12 have been rejected under 35 U.S.C. § 102(b) as being anticipated by *Koike et al.*

#### **i. Claim 1**

Independent claim 1 is drawn to a luminous body and recites the following:

*a housing with a light emission surface and a plurality of light sources arranged in the housing, wherein the housing comprises: at least a first optical medium with a first optical scattering power, into which medium the light of the light sources is coupled; and*

*a plurality of second optical medium elements with a second optical scattering power disposed in the housing, wherein each of the second optical medium elements comprises a plurality of particles, and each of the second medium elements is disposed over a respective one of the light sources.*

In the Appeal Brief, Applicant generally asserted that first resin encapsulator 25 of *Koike, et al.* (assertedly disclosing the "second optical medium") does not include "a

plurality of particles,” as recited in claim 1. Rather, *Koike, et al.* discloses that the first resin encapsulator 25 includes a wavelength-converting material, such as a “luminescent material,” and thus does not disclose second optical medium elements comprising a plurality of particles for purposes of rejection under 35 U.S.C. § 102(b). See Appeal Brief, pp. 4-7. In response to Applicant’s arguments, the Examiner asserts that the first resin encapsulator 25 of *Koike, et al.* discloses a “plurality of particles,” as recited in claim 1, for the following reasons. First, the first resin encapsulator 25 is a resin mixed with the wavelength-converting material, which may include a fluorescent dye or a fluorescent pigment, and “[a] ‘pigment’ is generally known to be in powder form, thus the constituent powder particles of the ‘fluorescent pigment’ can by themselves be considered ‘a plurality of particles.’” See Examiner’s Answer, p. 7. Second, *Koike, et al.* discloses that the fluorescent dye or pigment may be an organic phosphor, such as fluorescein, which has a molecular composition of  $C_{20}H_{12}O_5$ , and thus the atoms of the fluorescein disclose a plurality of particles. *Id.* Third, each of the atoms of the fluorescein includes at least one nucleus, proton, neutron and electron, which also disclose a plurality of particles. See Examiner’s Answer, pp. 7-8.

In response, Applicant again submits that the Examiner’s construction of “a plurality of particles” is overly broad and unreasonable, particularly in view of the subject Specification. See MPEP 2111 (“[T]he pending claims must be ‘given their broadest reasonable interpretation consistent with the specification.’” (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1316, 75 USPQ2d 1321, 1329 (Fed. Cir. 2005)). As previously discussed, there is no mention or even suggestion of atomic or subatomic particles, such as atoms or nuclei, in the present Specification or that such atomic or subatomic particles would scatter light. As such, the rejection depends entirely on a construction of the “plurality of particles” that is overly broad and otherwise inconsistent with the Specification.

Notably, the Examiner does not address this argument, or otherwise point to support in the Specification for the proposed overly broad claim construction. Rather, the Examiner relies entirely on broad dictionary definitions of “particle.” Also, with respect

to the fluorescent pigment of the first resin encapsulator 25 being in “powder form.” Applicant submits that this statement is unsupported and speculative, and does not carry the burden under 35 U.S.C. 102(b). Likewise, there is no disclosure of a pigment, even assumed to be in powder form, being a light scattering material.

Accordingly, *Koike, et al.* does not disclose each and every element of claim 1, and thus a *prima facie* case of anticipation has not been established. Therefore, Applicant respectfully submits that claim 1 is patentable over the applied art. Further, claims 2 and 5-12, which depend, directly or indirectly, from claim 1, are patentable for at least the same reasons.

## ii. Claim 9

Claim 9 depends from claim 8, which depends from claim 1, and recites as follows (including the subject matter of claim 8):

*wherein the second optical medium comprises light-scattering particles [and]*

*wherein the light-scattering particles are globules with an optical refractive index different from that of the surrounding material.*

In the Appeal Brief, Applicant generally asserted that fluorescent dye or fluorescent pigment disclosed by *Koike, et al.* does not disclose light-scattering globules. See Appeal Brief, p. 8. In response to Applicant’s arguments, the Examiner asserts that the fluorescent dyes or pigments of *Koike, et al.* are light-scattering because they “have a different optical refractive index from the resin and serve to scatter the light emitted from the light emitting element 15 during conversion of the light to a light of a longer wavelength.” See Examiner’s Answer, p. 8 (citing col. 5, lines 41-54 of *Koike, et al.*) However, as previously stated, *Koike, et al.* discloses that the first resin encapsulator 25 and the fluorescent dyes or pigments contained therein are for “wavelength-conversing,” not “light-scattering,” as recited in claim 9. Indeed, the cited portion of *Koike, et al.*

relied upon by the Examiner makes not mention of materials having different optical refractive indexes or scattering light:

A wavelength-converting material excited by blue luminescence or luminescent light to thereby generate visible light having a long wavelength is mixed into the first resin encapsulator 25. For example, it is capable of transforming the blue luminescence into white and emitting its light. As the wavelength-converting material, may be used a luminescent material comprised of a fluorescent dye, a fluorescent pigment or the like. As the fluorescent dye, may be used, for example, an organic phosphor such as fluorescein, rhodamine or the like. Also as the fluorescent pigment, may be used an inorganic phosphor such as calcium tungstate or the like. Incidentally, a wavelength region to be converted can be adjusted by changing the amount of making of these luminescent materials.

See col. 5, lines 41-54 of *Koike, et al.* (emphasis added). Applicant respectfully submits that a material for wavelength conversion (i.e., transforming one color of light to another) does not disclose a material for light scattering.

Accordingly, *Koike, et al.* does not disclose each and every element of claim 9, and thus a *prima facie* case of anticipation has not been established. Therefore, Applicant respectfully submits that claim 9 is patentable over the applied art for at least these additional reasons, as well as those reasons discussed above with regard to claim 1.

## II. Rejection under 35 U.S.C. § 103(a)

Claims 3 and 4 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Koike, et al.* in view of *Kawano, et al.* Applicant submits that *Kawano, et al.* does not cure the deficiencies of *Koike, et al.* discussed above with respect to claim 1, from which claims 3 and 4 depend. Further, while Applicant does not concede the propriety of the combination of references, because claims 3 and 4 rejected for obviousness depend

from claim 1, they are patentable for at least the same reasons discussed above, and in view of their additional subject matter.

### **Conclusion**

In view of the foregoing, Applicant respectfully requests: the withdrawal of all objections and rejections of record; the allowance of all pending claims; and the holding of the application in condition for allowance.

Respectfully submitted on behalf of:  
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